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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889				
			EXAMINER VOLPER, THOMAS E	
			ART UNIT 2665	PAPER NUMBER 12
DATE MAILED: 01/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/520,841

Applicant(s)

ATSUUMI ET AL.

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 9 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7, 8, 10-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 8 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
2. Claim 10 is objected to as being a duplicate of claim 4.
3. Claim 13 is objected to as attempting to further limit "A multiplexing equipment according to claim 7" when claim 7 is based on "A cell creation method."
4. Claim 14 is objected to as attempting to further limit "A multiplexing equipment according to claim 8" when claim 8 is based on "A cell creation method."

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 12 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Claims 12 and 15 both depend from cancelled claim 6. Since claim 6 has been cancelled, it is not clear what "multiplexing equipment" the claims attempt to further limit.

Response to Arguments

8. Applicants' arguments filed 15 September 2003 have been fully considered but they are not persuasive.

The Examiner respectfully disagrees with Applicants that claims 1 and 5 are now in condition for allowance. Applicants argue that Noiri (US 6,272,137) fails to teach "creating cells from user data to be transmitted from one of the information terminals to another one of the information terminals and control line signals indicating control line information input from the one information terminal wherein the control line information is necessary for the other information terminal to receive the user data." However, Noiri discloses a system in which data cells and control cells are created and sent from one ATM device to another (col. 5, lines 11-17). The invention provided by Noiri clearly meets the limitations set forth in claims 1 and 5.

The Examiner also disagrees with Applicants that claim 4 is now in condition for allowance. Applicants argue that Nakao (US 6,134,249) provides idle cells for transfer of control information over a transmission line, but fails to anticipate or render obvious the features of the present invention. For clarification, the Examiner points out that Nakao has been used not for anticipation of the claimed invention, but in a 35 U.S.C. 103(a) rejection to render obvious the feature of claim 4, i.e. bi-modal operation of the ATM network, when used in combination with Noiri. Noiri discloses the feature of creating and transmitting data cells and control cells, as described in the previous paragraph. Nakao provides a cell selector that can choose to select only a data cell stream for transmission, or can choose to create and transmit control cells and multiplex them into the cell stream (col. 3, line 66 – col. 4, line 5). The first mode of Nakao, the data cell only mode, meets the limitation of a constant fix mode for executing a full duplex

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communication since the primary reference, Noiri, provides for duplex communication (col. 14, lines 20-21). The second mode of Nakao, which includes multiplexing control cells into the cell stream, meets the limitation of a control line signal transmission mode. Thus, the combination of Noiri in view of Nakao meets the limitations presented in claim 4.

Claims 1, 4 and 5 of the present invention stand rejected on the same grounds, thus this action is deemed final.

9. Applicants' arguments with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 5 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Noiri (US 6,272,137).

Regarding claims 1, 5 and 11, Noiri discloses an ATM transmission system with subsystems A0 and A1 that includes a cell multiplexer/demultiplexer (20A) and control information processor circuit (30A). Subsystems B0 and B1 are comprised of these same elements and can communicate with A0 and A1 (col. 4, line 63 – col. 5, line 10). The cell

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multiplexer/ demultiplexers are adapted to multiplex user, or main, information and control information, both provided in the form of a cell (col. 5, lines 11-14). Also, Noiri discloses that the cell mux/demux is adapted to demultiplex received information into user, or main, information and control information (col. 5, lines 15-17).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 7, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noiri (US 6,272,137) as applied to claims 1, 5 and 11 above, and further in view of Takashima et al. (US 5,509,007).

Regarding claims 2 and 8, Noiri fails to expressly disclose mapping control line signals into a portion of a cell payload. Takashima discloses mapping control line signals into a portion of a cell payload (see Fig. 6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to map the control information into a portion of a cell also used for data. One of ordinary skill in the art would have been motivated to do this in order to provide information about how the cell was constructed, such as what types of information and how much of each type of information was in the cell. This would provide flexibility in the cell

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structure and support variable length payloads and different types of information within a single cell.

Regarding claims 7 and 13, Noiri fails to expressly disclose that the line control signal includes a Receive Data/Carrier Detect (RS/CD) signal that indicates there is data to be transmitted, and that control information is mapped into a portion of a cell payload. Takashima discloses that a receiving side device reads headers out of the payload control information part of a cell to determine what type of information is in the cell to be received, and how the information is allocated in the payload. With this information, the payload data can be properly restored (col. 14, line 61 – col. 15, line 4). This control information describing the information to be received represents the RS/CD signal of the present invention. Takashima also discloses mapping control line signals into a portion of a cell payload (see Fig. 6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide this control information to a receiving device and map the control information in the same cell as data information. One of ordinary skill in the art would have been motivated to do this to provide flexibility in the cell structure while providing control information so that the receiving side can properly restore the data in the cell.

14. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noiri (US 6,272,137) as applied to claims 1, 5 and 11 above, and further in view of Nakao (US 6,134,249).

Regarding claims 4 and 10, Noiri discloses all of the limitations except that the system

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can operate in two modes, one for control line signal information and one for plain data communication. Nakao discloses a system that multiplexes user data cells with control data cells (col. 3, lines 3-6). The cell multiplexer (102) is comprised of a selector (204), which normally selects the regular cell stream, but if an idle detection signal is detected from idle cell detector (101), control cells are multiplexed into the stream to form the CSmux stream (col. 3, line 66 – col. 4, line 5). In this way, the device operates in essentially two modes, regular cell stream, and CSmux cell stream. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide the ATM transmission system of Noiri with the feature of operating in two modes, one that contains regular user cells, and one that contains control signal cells as well. One of ordinary skill in the art would have been motivated to do this so that system flexibility is provided while still obtaining the benefit of reducing the number of lines needed for the system.

Allowable Subject Matter

15. Claims 3 and 9 are allowed.
16. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

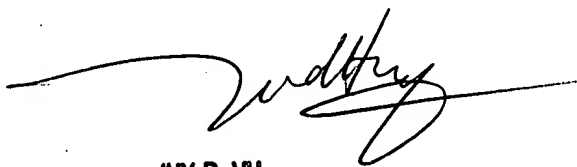
18: Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

TEV

December 16, 2003


HUY D. VU
SUPERVISORY PATENT EXAMINER
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